



Indiana Department of Environmental Management  
Office of Air Quality

Rule Fact Sheet – Final Adoption  
February 2, 2011

**New Rule at 326 IAC 4-3 Concerning Outdoor Hydronic Heaters  
(Outdoor Wood Boilers)**  
LSA Document #05-332

**Changes since preliminary adoption:**

326 IAC 4-3-4 – The compliance date for the stack height requirement changed from August 31, 2011 to November 30, 2011.

326 IAC 4-3-5(e) – Added language to clarify that opacity is measured by a representative of IDEM in accordance with 40 CFR 60, Appendix A, Method 9.

**Overview**

This rule adds 326 IAC 4-3 to address emission limits for new units, operating requirements for existing units, modifications for certain existing units and notice requirements for sellers of outdoor hydronic heaters (also referred to as outdoor wood boilers or outdoor wood-burning furnaces).

**Citations Affected**

Adds: 326 IAC 4-3.

**Affected Persons**

This rulemaking will impact anyone that sells, distributes, manufactures, installs, or owns an outdoor hydronic heater. Anyone that lives near an outdoor hydronic heater could also be impacted.

**Reasons for the Rule**

The rule will reduce the impact of particulate matter emissions from outdoor hydronic heaters to protect the health of Indiana citizens.

Outdoor hydronic heaters are a popular choice among wood heating appliances as homeowners look for ways to reduce their heating costs and avoid the safety issues associated with an indoor wood heating appliance. Health impacts from outdoor hydronic heaters are a nationwide concern and U.S. EPA has been working with manufacturers to reduce the amount of particulate matter emissions from new units. The technology exists to reduce the impact of particulate matter emissions from outdoor hydronic heaters. This rule will phase in the use of new lower emitting units as consumers either replace their existing unit or buy an outdoor hydronic heater for the first time.

Northeast States for Coordinated Air Use Management (NESCAUM) modeling shows that under a variety of operating scenarios existing outdoor hydronic heaters emit enough particulate matter to exceed the 24-hour fine particulate matter (PM<sub>2.5</sub>) air quality standard. More recent modeling from the Maine Department of

Environmental Protection confirms that even with lower assumed emission rates for existing units the 24-hour PM<sub>2.5</sub> air quality standard is still exceeded. Modeling by the Hearth, Patio, and Barbecue Association shows that units emitting at the U.S. EPA Phase 1 target emission rate (0.44 lbs/MMBtu heat output), when installed with stack heights consistent with manufacturer's instructions, have ambient air impacts below the 24-hour PM<sub>2.5</sub> air quality standard.

Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

### **Economic Impact of the Rule**

IDEM has estimated the following costs for the key requirements in this rule:

- Existing unit - Stack height extension: \$815 (could be as low as a few hundred dollars)
- Existing unit – Summertime ban: \$90
- New - Phase 2 Unit: \$8,495 to \$10,495 (Approximately a \$3,500 cost increase between a non-Phase 2 unit and a Phase 2 unit)

### **Benefits of the Rule**

This rule addresses PM<sub>2.5</sub> emissions from outdoor hydronic heaters by requiring adequate dispersion for units already installed and by requiring new units to be lower emitting Phase 2 qualified units.

### **Description of the Rulemaking Project**

This rulemaking applies to outdoor hydronic heaters, not indoor wood burning appliances and other sources of wood smoke which are sufficiently different in potential emissions, stack

heights, design, operating conditions, or frequency of operation to distinguish them from outdoor hydronic heaters. Outdoor hydronic heaters heat and provide hot water for homes and other structures. Outdoor hydronic heaters are free standing appliances that burn wood or some other fuel to heat water. The heated water is pumped, typically through underground pipes, to the structure or multiple structures to be heated and the cooled water is returned to the outdoor hydronic heater for reheating. A unit typically looks like a small shed with a short smoke stack, and is usually located in close proximity to the building to be heated.

The rule requires:

#### **1) New installations**

- Phase 2 units qualified through U.S. EPA's Voluntary Outdoor Hydronic Heater Program to meet an emission limit of 0.32 lbs/MMBtu heat output
- Seller notification to buyer of state rule (326 IAC 4-3) and seller notification to IDEM
- Sell-through provisions for existing non-Phase 2 units in a Indiana dealer's inventory

#### **2) Existing installations**

- Stack height requirement for outdoor hydronic heaters located within 150 feet of an occupied building not located on the same property as the unit
  - 5 feet higher than the peak of the roof of the occupied building
  - Maximum stack height of 22 feet
- Summertime operating ban for outdoor hydronic heaters located within 300 feet of an occupied building not located on the same property

- Restriction applies June 1 – August 31
- 3) All outdoor hydronic heaters
- Burn clean wood or other approved fuel
  - 20% opacity limit (this can be met using good combustion practices and with proper maintenance of the unit)

### **Scheduled Hearings**

First Public Hearing: June 2, 2010, Auditorium, Columbus East High School, 230 South Marr Road, Columbus, Indiana.  
 Second Public Hearing: February 2, 2011, Tippecanoe County Public Library, 627 South Street, Lafayette, Indiana.

### **Consideration of Factors Outlined in Indiana Code 13-14-8-4**

Indiana Code 13-14-8-4 requires that in adopting rules and establishing standards, the board shall take into account the following:

- 1) All existing physical conditions and the character of the area affected.
- 2) Past, present, and probable future uses of the area, including the character of the uses of surrounding areas.
- 3) Zoning classifications.
- 4) The nature of the existing air quality or existing water quality, as appropriate.
- 5) Technical feasibility, including the quality conditions that could reasonably be achieved through coordinated control of all factors affecting the quality.
- 6) Economic reasonableness of measuring or reducing any particular type of pollution.

(7) The right of all persons to an environment sufficiently uncontaminated as not to be injurious to:

- (A) human, plant, animal, or aquatic life; or
- (B) the reasonable enjoyment of life and property.

### **Consistency with Federal Requirements**

There is not a comparable federal rule.

### **Rulemaking Process**

The first step in the rulemaking process is a first notice published in the *Indiana Register*. This includes a discussion of issues and opens a first comment period. The second notice is then published which contains the comments and the department's responses from the first comment period, a notice of first meeting/hearing, and the draft rule. The Air Pollution Control Board holds the first meeting/hearing and public comments are heard. The proposed rule is published in the *Indiana Register* after preliminary adoption along with a notice of second meeting/hearing. If the proposed rule is substantively different from the draft rule, a third comment period is required. The second public meeting/hearing is held and public comments are heard. Once final adoption occurs, the rule is reviewed for form and legality by the Attorney General, signed by the Governor, and becomes effective 30 days after filing with the Legislative Services Agency.

### **IDEM Contact**

Additional information regarding this rulemaking action can be obtained from Susan Bem, Office of Air Quality, Rule and State Implementation Plan Development Section, (317) 233-5697 or (800) 451-6027, ext. 3-5697 (in Indiana).